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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/878,216   | 06/12/2001  | Graziano Mortari     | 34816/GM/IP         | 2104             |
| 7590   | 12/23/2003  |                      | EXAMINER            |                  |
| MODIANO & ASSOCIATI<br>Via Meravigli, 16<br>Milano, 20123<br>ITALY |             |                      | LIN, KUANG Y        |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 1725                |                  |

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |   |
|------------------------------|-----------------|---|
| <b>Office Action Summary</b> | Application No. | Applicant(s)                            |
|                              | 09/878,216      | MORTARI, GRAZIANO<br><i>[Signature]</i> |
|                              | Examiner        | Art Unit                                |
|                              | Kuang Y. Lin    | 1725                                    |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 24 November 2003.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 11-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 11-20 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
 a) The translation of the foreign language provisional application has been received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)                            4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.  
 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)                    5)  Notice of Informal Patent Application (PTO-152)  
 3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.                    6)  Other: \_\_\_\_\_

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Behrens and further in view of Rearwin, France 1,303,198 and Cook for the same reasons as set forth in the last office action.

Namely, Behrens shows to provide an inert gas inlet downstream of a molten metal inlet in an injection sleeve such that to introduce the inert gas prior to injecting the molten metal into the die cavity. Rearwin shows to provide a cleaning means for cleaning the metal stick to the piston during a die casting process such that to prevent the metal from scratching the sleeve. France '198 shows to provide a piston lubricating means to prolong the service life of the injection sleeve. Cook shows to provide a vacuum means (aspirating means) to facilitate the molten metal dispensing step in a die casting process. It would have been obvious to provide the die casting sleeve of Behrens with the piston cleaning means of Rearwin and the lubricating means of France '198 to prolong the service thereof. It would also have been obvious to provide the vacuum means (aspirating means) of Cook in the die casting apparatus of Behrens to facilitate the molten metal dispensing step in the die casting process.

3. Applicant's arguments filed Nov. 24, 2003 have been fully considered but they are not persuasive.

a. In the junction paragraph between pages 5 and 6 of the remarks, applicant stated that in Behrens the inert gas is only introduced to pressurize the chamber and the mold cavity to force the metal into the cavity under sufficient pressure. However, when closely examiner col. 3, lines 18-23 of the patent to Behrens, it is noted that it is the ram, rather than the inert gas, which is used to pressurized the chamber. In col. 2, line 26+, it clearly states that the inert gas is used to flush the mold for removing any oxygen from the cavity before the molten metal is introduced into the mold. Although the opening of Behrens does not used for both injecting and suctioning of the inert gas, the patent to Cook shows to use vacuum means for suctioning gas out of the die cavity in a vacuum die casting process. The purpose of Cook's process is to prevent the cast metal from oxidizing and to remove trapped gasses from the melt. It would have been obvious to remove the inert gas of Behrens after it flush the mold cavity in view of Cook. Although the combined teaching of Behrens and Cook does not show to inject and remove the inert gas through a same opening, the use of a single opening for injecting and suctioning inert gas in lieu of using two openings present no novel or unexpected result and solves no stated problem and would have been obvious to those of ordinary skill in the die casting art. See *In re Kuhle*, 188 USPQ 7.

b. In page 6, 5<sup>th</sup> paragraph of the remarks applicant stated that in Rearwin, element 112 that is closely attached to the injectin chamber 22 and acts as a vacuum sealing element for such chamber. However, it is noted element 112 is

provided with a wiping means for removing any casting material which may adhere to ram 92 and thereby to prevent the possible scoring of the charging chamber (see col. 1, line 45+ and col. 8, 16+). Thus, applicant's argument is moot. Further, in French '198 a lubricating means is provided for lubricating the plunger. It would have been obvious to arrangement the lubricating means of French '198 in the upstream position of wiping means with respect to the advancing direction of the ram in the element 112 of Rearwin such that the ram can be lubricated after the surface thereof had been cleaned.

c. In page 7, 4<sup>th</sup> paragraph of the remarks applicant stated that in Rearwin the wiping means 162 is taught to wipe the ram, necessarily, only partially as shown in figure 3. However, the drawing does not necessarily show the entire process step. Further, in col. 1, line 45+, it states that the wiping means is for removing any casting material which may adhere to ram 92 and thereby to prevent the possible scoring of the charging chamber. It would have been obvious to those of ordinary skill in the casting art that the whole external surface of the ram shall be cleaned and lubricated such that the possible scoring of the charging chamber can be prevented.

4. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued

examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuang Y. Lin whose telephone number is 703-308-2322. The examiner can normally be reached on Monday-Friday, 10:00-6:30,.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas X Dunn can be reached on 703-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

1/16/03

  
KUANG Y. LIN  
EXAMINER  
GROUP 320  
1725